

# Ethiopia

Year 1
Quarterly Report
April 2011 - June 2011

## **Quarterly Overview**

Reporting Country	Ethiopia					
Lead Partner	KNCV					
<b>Collaborating Partners</b>	MSH, WHO,GLRI					
Date Report Sent	July 29,2011					
From	Ezra Shilelise (Country					
	Director)					
То	USAID Mission					
Reporting Period	April-June 2011					

<b>Technical Areas</b>	% Completion
1. Universal and Early Access	15%
2. Laboratories	43%
3. Infection Control	61%
4. PMDT	44%
5. TB/HIV	53%
6. Health Systems Strengthening	70%
7. M&E, OR and Surveillance	65%
8. Drug supply and management	25%
Overall work plan completion	47%

## **Most Significant Achievements**

#### Sixth National TB Research Conference

The sixth national TB conference was organized by the National Tuberculosis Advisory Committee(TRAC) & University of Gondar, College of Medicine & Health Sciences: June 6-8/2011 with the theme of "Challenging the Challenges of TB Case Detection and MDR TB in Ethiopia". This was a main event to TB control because it helps to push research agendas and influence policy decisions. TB CARE I/KNCV Tuberculosis foundation has supported this important event both financially & technically. It contributed 12,100 USD. TB CARE I staff have attended the event and technically assisted the conference by chairing two sessions (challenges on MDR TB in Ethiopia and beyond, and TB/HIV); and also served as a panelist in "Panel discussion on preparedness in handling MDR TB in Ethiopia" and actively participating in the discussions.

Apart from the 23 research papers presented in the conference presentation, 22 research papers were displayed for poster. "Assessment of factors affecting the pulmonary case detection" was one of the graduate theses sponsored by TB CAP Ethiopia which was selected and also got chance to present the findings during poster presentation. The conference was a good opportunity to identify priority research areas and training needs on TB. (See photo album)

### MDR TB Service assessment

<u>Back ground</u>: National MDR-TB status assessment was conducted at Gondar University Hospital & two selected satellite health centers.

<u>Objective</u>: The purpose of the visit was to provide technical assistance, identify gaps/problems on MDR TB service, and to recommend possible solutions.

Findings & Action taken: Lack of coordination between Gondar University Hospital, Regional Health Dept, & HFs; lack of capacity of the HF staff; delayed feedback for culture & DST result from central reference laboratory; lack of transportation for program monitoring activities; weak data management system & shortage of auxiliary drugs & lack of nutritional support. Based on the key findings, TB CARE supported the program in addressing some of the challenges: Training on PMDT for 30 (M=16; F=14) health care workers invited from Gondar University & its satellite HCs; onsite orientation on recording & reporting formats of PMDT program and procured three computer for improving the data management system. Other follow up activities planned for fourth quarter includes: orientation & onsite training on electronic data base management; procurement of auxiliary drugs, sensitization workshop for stakeholder & other major support like laboratory & social support will be addressed in APA 2.

Conducting KAP was beyond the scope of this brief assessment, however it is a good idea to be considered in the next workplan.

### Strenathened ACSM on TB IC

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<u>Background:</u> Brief end user assessment conducted to evaluate the TB IEC that were produced by TB CAP and distributed to the health facilities & public in 2009 /10. This includes Leaflets & Stickers on importance of opening windows at household level and public transport, poster on cough etiquette, & treatment adherence.

<u>Objective:</u> The main objective of this exercise was to assess the strength & weakness of these materials and get input for the production of the next set of TB IEC material to be produced in TB CARE I.

<u>Methodology</u>: The health care workers and clients in selected health facilities were interviewed using the check list.

<u>Result & Action taken</u>: The findings demonstrated that there is a need for improving the background of the sticker, visibility of opened window on the pictures of the public transport & improving the size of the stickers. Accordingly, the process of producing TB IEC material has started and so far graphic designer communicated and first draft of the stickers produced. The draft design commented and sent back to the designer. The final product will be sent for printing soon.

## Overall work plan implementation status

The overall work plan implementation has greatly improved compared to the previous quarter. The smooth relation between collaborating partners with FMOH, & other stakeholders contributed to the increased overall work plan implementation to 47 %.

## Technical and administrative challenges

TB CARE I is currently working on at national level and it is a challenge due to the several competing priorities and difficulty of not having a specific contact person/group at FMOH. It can be a challenge to balance pre planned activities and new requests raised by the Federal Ministry.

The transition between TB CAP and TB CARE I has resulted in delays to the annual deliverable

# **Quarterly Technical Outcome Report**

	2010*	2011**	2009***
Number of MDR cases diagnosed	140	???	192
Number of MDR cases put on treatment	85	71	79

<sup>\*</sup> January - December 2010 \*\* January - June 2011 \*\*\* January - Decembe 2009

Technical Area		1. Universal and					
Exp	pected Outcomes	Outcome Indicators	This activity is implemented by GLRA and supportive supervison will continue for 2 quarters	0	Y1 2	Joint Supportive supervision made for 22 Woredas and 26 health posts. Major finding: frequent change of trained staff at TB clinic which creates inconsistency in applying DOT strategy & record keeping. There is a need to strengthen the support system through site visit, mentorship; & gap filling trainings.	Challenges and Next Steps to Reach the Target
1.1	Ensured continuity of Community TB care activities in Arsi	supportive supervsion conducted for on community based TB care at Arsi Zone					
1.2	Ensured continuity of Community TB care activities in WHO	Number of HEW trained	Number of HEWs trained on CTB in TB CARE I supported Zones.	0	120	Training will happen in July as per the schedule.	
	supported Zones	Number of review meetings	Number of review meetings conduted	0	2	Joint Supportive supervisions were conducted in East & West shoa zone during the period of June 1 - 23/2011. , Woreda health offices, Health centers & Health posts under the two Zones were supervised. Based on the finding of the joint supportive supervision, the following recommendation were forwarded:- the need for regular supportive supervision, refresher training for health Extension workers & orientation on community based TB care for newly assigned Woreda health offices & health centers head.	

Te	chnical Area	2. Laboratories						
Exp	ected Outcomes	Outcome Indicators	Indicator Definition	Baseline	Target	Result	Highlights of the Quarter	Challenges and Next Steps to Reach
					Y1	Y1		the Target
2.1	Strengthened EQA capacity	QA Number of supportive supervisons conducted	Number of supportive supervisons conducted on quarterly basis in 7 TB CARE supported Zones.	N/A	172	195	195(113.3%) TB Diagnostic Facilities were supervised during this quarter, of them slides were collected from 188(96.4 %) for blind rechecking. Rechecking of the slides are underway in the respective regional laboratories and the result not yet finalized.	Challenges: the result of EQA is not ready as scheduled; this is because most of the Regional labs are busy with other commitment.  Next Step: discussion underway with them to find better solution
		Number of lab professionals trained	Number of lab professionals trained disaggregated by gender.	0	60	53	Two rounds training on on AFB microscopy and EQA conducted at Dessie(June 13 –17) & Adama (May 30 – June 3). A total of 53 (F= 19; M=34) laboratory professionals employed from 52 health facilities of TB CAP supported zones.	
		Number of regioinal lab staff trained	Number of regional lab staff trained on TB culture and DST disaggregated by gender	0	20		Planned for next Quarter	
2.2	itrengthened lab etworks	Number of panel test performed	Number of panel test performed at supra national lab	0	1		Communication has started with the Ethiopian Health and Research Nutrition Research Institute (EHNRI) & supranational laboratory(RIVM) to initiate sample transportation.	
		Number of Lab TWG meetings attended	Number of lab TWG meetings attended on a regular basis	0	4	2	During TWG meeting two issues were discussed: Responsibilities of EHNRI & Regional laboratories on AFB Microscopy service; and on TB laboratory indicators revision.	
		Number of EQA performed	Number of EQA performed at 5 regional labs	0	1		Regional laboratories didn't start conducting culture & DST	Since this activity will not be conducted in this year, the budget will be utilized for supplementing activities 2.1.1 &2.1.4. Ethiopian health & nutrition research institute (EHNRI) is the responsible government institute handling the establishment of culture & DST at regiona laboratories. But TB CARE is strongly emphasizing the issue in the TWG meetings and discussions underway to hasten the installation process and it will take few months.

7	echnical Area	3. Infection Cont						
E	xpected Outcomes	Outcome Indicators	Indicator Definition	Baseline	_	Result	Highlights of the Quarter	Challenges and Next Steps to Reach
103	.1 Strengethened scale- up of TB IC implementation	health bureaus that recieved TA on TB IC	Numerator: regional health bureaus that received TA, Denomenator: total number of regions(11)	0	<b>Y1</b> 50%	Y1	Technical assistance on TB IC provided to three regional health Bureau (Harari, Addis Ababa and Dire Dawa). In addition Assessment on EH-RH regimen shift status was also conducted.	the Target
3	system for incorporation of TB IC issues in health facility design	· ·	Key information on TB IC incorporated in the designin g of Health facilities	No	Yes		Report writing is underway.  1. TB infection Control principle incorporated in 30 Hospital design in Amhara Regional Health Bureau.  2. TB Infection Control principle forwarded and expected to be incorporated in 100 prototype Health Centers draft design-USAID led project. 3. after communicated with FMOH it was decided to postpond this activity to next year and instead to conduct national TB IC training for 30 HCWs.	Next Step: Conduct national TB IC training for 30 Health Care Workers

ı	Technical Area 4. PMDT								
Ī	Expected Outcomes	Outcome Indicators	Indicator Definition	Baseline	Target	Result	Highlights of the Quarter	Challenges and Next Steps to Reach	
ı					Y1	Y1		the Target	
	<b>4.1</b> Treated 100 MDR-T patients with SLD funded by USAID	B Number of MDR-TB patients put on SLD	MDR patients treated with SLD by USAID funds	0	100		The first shipment arrived and cleared from custom, the treatment sites are in the process of recuriting patients from the waiting, 200 patients are currenlty on waiting list.  Drugs arrived to the treatment site and they are recuriting patient from the waiting list. Number of patient ever started treatment until end of June are 235.		
	4.2 Strengethened MDR data management	Establishment of electronic database system	A computerized data management system which can generate automatic information	No	Yes		, , ,	Challenges: communication with HMIS took a long time.  Next step: Planned to introduce the existing MDR TB data management system of St Peter Hopsital to Gondar University Hospital.	

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Ī	4.3	Established routine	Preparation of national	A guideline for	No	Yes	Assessment finding of regional	Challenges: The DST expansion process
		surveillance system	guideline for	establishment of 'routine			laboraotoies have shown that	was delayed nationally and all the five
		for MDR-TB	establishment of 'routine	sureveillance for MDR'			construction of regional laboratories	selected regional laboratories are not yet
			surveillance for MDR-TB'	developed by the national			are almost finalized, but important	started the culture and DST.
				technical working group			laboratory equipment are not in	Next step: Close follow up and techincal
							place to start up culture & DST. The	support if required
							equipment arrived to the sites and	
							installment is underway and	
							probability they will be functional	
							within a few months.	

Technical Area	5. TB/HIV	5. TB/HIV					
Expected Outcomes	Outcome Indicators	Indicator Definition	Baseline	Target Y1	Result Y1	Highlights of the Quarter	Challenges and Next Steps to Reach the Target
5.1 Improved coordination of TB/HIV Collaboration activities	Number of TB/HIV TWGs attended ive	Number of TB/HIV TWGs attended on a regular basis	0	3	4	Four attendances in this quarter including the core group meetings TBL & TB/HIV training modules finalization	
	Number of manuals and training materials revised	Number of TB/HIV manuals and training materials revised based on FMoH need	0	1	1	Participated & techincaly assisted on comprehensive TBL & TB/HIV training material development. Accordingly Participants module and trainer guide development finalized. Field test done & TOT on the module given to natio	
	Number of TB/HIV experts participated in TOT	Number of TB/HIV experts participated in TB/HIV national TOT disaggregated by gender	0	30	18	TOT given for 18 experts from RHBs, universities &Fedral hospitals. TB CARE I technically supported the training. TB CARE I's TOT for the remaining experts is scheduled after the guideline revision. TB CARE I & FMOH trained 24 female Health Extension Workers on TB and HIV at Hawassa from April 14-20, 2011.	Challenge: In order to conduct this training, updated TBL & TB/HIV guideline is compulsory.  Next step: Accomplishement of this activity will depend on the readiness of revised guideline. TB CARE I will participate in TBL & TB/HIV Guidlines revision process.
	Number of TB/HIV program managers trained	Number of TB/HIV program managers trained on MOST for TB/HIV	0	20		Scheduled for next quarter	

5.2	•		Number of TB exerts participated in the DOTs TOT based on the revised TBL and TB/HIV manual disaggregated by gender	0	30	To be done after the TBL & TB/HIV guideline revision.	
		up/supervision made	Number of follow up/supervision made to the SOP pilot site	0	2	Health facility level case Detection SOPs implementation done in 26 HFs in West Arsi Zone of Oromia from May 23- June 4, 2011. Follow up and supportive supervision to be done next quarter in collaboration with RHB & ZHD experts	
		Number of regions and towns regimen shift completed	Number of regions and towns implemented regimen shift	3	7	EH-RH regimen shift implementation assessment tool developed in collaboration with FMoH. Assessment done and report to be finalized soon.	

<b>Technical Area</b> 6. Health Systems Strengthening								
Exp	ected Outcomes	Outcome Indicators	Indicator Definition	Baseline	Target	Result	Highlights of the Quarter	Challenges and Next Steps to Reach
					Y1	Y1		the Target
6.1		Regular meeting of the national stop-TB partnership	Number of meetings held by Stop TB partnership	1	3	2	Attended and actively participated TB & TB/HIV TWG meetings, core group that finalized the Comprehensive TBL & TB/HIV training modules. Agreed with FMOH to replace with new relevant activities.	<b>Next Step:</b> support proffesional assosciations conference, media activities on TB advocacy, evalution of the contribution of the previous radio TB program.
6.2	awareness		Number of TB audio message sessions broadcasted per year	0	24	16	Four sessions broadcasted in this quarter.	Challenge: Only four sessions broadcasted in this quarter because the previous contract expired at the end of April, guidance from the FMoH & Vendor selectetion took long time.  Next step: Program to resume on July 2011.
		' '	Number of both public and private print media with TB message printed per year	0	12	7	TB Messages were printed in Two English and five in national language (Amharic ) news papers: TB CARE I provided technical assistance: by providing interview,& orientation given to the journalist in their quaterly review session.	
		Number of TB events supported per year	Number of TB events supported per year	0	1	1	World TB Day commemorated and reported in last quarter and cost was covered by TBCAP. Therefore this budget is utilized to supplement activity 6.2.1	

Technical Area		7. M&E, OR and S	Surveillance					
Exp	ected Outcomes	Outcome Indicators	Indicator Definition	Baseline	Target	Result	Highlights of the Quarter	Challenges and Next Steps to Reach
7 1	Strengethened data	Adequate availablity of	Adequate availablity of	unknown	<b>Y1</b> 100%	Y1	Recording & reporting formats are	the Target Challenges: revision of indicators of TB
	management for TB and TB/HIV at national level	registers and formats	Registers: unit TB register, Laboratory register, Formats: sputum request, case finding, treatment	dikilowii	100 /0		being distributed for regions. TB CARE I is participating in the revision of TBL & TB/HIV indicators.	& TB/HIV is taking longer than expected.  Next step: Planned to reprint the existing
7.2	National TB Prevalence survey conducted	Completion of national survey	The data collection for the ongoing survey on TB prevalence will be completed	Ongoing	Completed		The National TB prevalence survey field operation was finalized on 25th of June 2011. TB CARE continued paying salary for the central team of the experts who also provide techincal assistance.	Next step: Planned to conduct workshop on field operation finalization and preliminary result releases on July 14, 2011 and TB CARE will support both techincally & finanically. The routine support including salary will continue.
7.3	National operational research agenda for TB prepared	List of priority for research area prepared	Review meeting on TB research conducted by TRAC	No	Yes	completed	The Sixth National TB Research Conference was organized by the National Tuberculosis Advisory Committee (TRAC) & the University of Gondar, College of Medicine & Health Sciences . TB CARE I provided financial and technical assistance and assisted the conference by chairing and actively participating in the discussions.	
7.4	Patient's cost tool implemented	Completion and dissemination of Patient's cost analysis	Research on patient expenditure for TB services	No	Yes		MOU signed between AHRI and KNCV Country office in June, protocol submitted for ethical clearance.	<b>Next step:</b> will start data collection after ethical clearance

-	Тес	chnical Area	8. Drug supply a	nd management					
E	Ехр	ected Outcomes	Outcome Indicators	Indicator Definition	Baseline	Target	Result	Highlights of the Quarter	Challenges and Next Steps to Reach
	8.1	Improved IPLS	Number of health facilities implementing IPLS	This includes the number of health centers and hospitals that implement IPLS	61	<b>Y1</b> 300	Y1	collaboration with Pharamaceuticals	Challenges: Delay in the execution of some activities as PFSA is engaged in other competing priorities.  Next steps: IPLS training will be conducted
1		Supported implementation of new TB regimens	EH/RH regimen shift implemeted as per the national plan	EH/RH shift implemented atleast in Urban and selected agrarian regions of the counry	3	7	7	TWG, participated in the finalization of comprhensive TBL & TB/HIV national training material and then	Next step: Tentative schedule set to organize a two day national sensitization workshop on the integration of TB, Malaria and FP pharmaceuticals with that of ARV pharmaceuticals.
1		Improved skills on quantification and supply planning	national level	Quartley supply planning prepared in line with the national quantification and forecast for anti-TB drugs	biannual	2	1	Stock status analysis and Supply planning exercise for anti-TB Pharmaceuticals is under way with PFSA.	

# **Quarterly Activity Plan Report**

Outcomes		niversal and Early Access	Lead Partner	Approved Budget	Comp	pletion	Month		Cumulative Progress and Deliverables up-to-date
1.1 Ensured continuity of Community TB care	1.1.1	Supportive supervison from Central to Zonal level	KNCV	34,140	<b>(</b>	)%	Sep	2011	Activity postponed to the fourth quarter.
activities in Arsi	1.1.2	Supportive supervison from Zonal to district level	KNCV	10,788	5	0%	Sep	2011	Joint Supportive supervision made for 22 Woredas and 26 health posts. Major finding: frequent change of trained staff at TB clinic which creates inconsistency in applying DOT strategy & record keeping. There is a need to strengthen the support system through site visit, mentorship; & gap filling trainings.
1.2 Ensured continuity of	1.2.1	Training for HEW	WHO	13,499	<b>(</b>	)%	Jul	2011	Training will be conducted as per schedule.
Community TB care activities in WHO supported Zones		Supportive supervision	WHO	50,565		5%		2011	Joint Supportive supervisions were conducted in East & West shoa zone during the period of June 1 -23/2011. Woreda health offices, Health centers & Health posts under the two Zones were supervised. Based on the finding of the joint supportive supervision, the following recommendation were forwarded: the need for regular supportive supervision, refresher training for health extension workers & orientation on community based TB care for newly assigned Woreda health offices & health centers head.
	1.2.3	Review meeting	WHO	46,111	<b>(</b>	)%	Sep	2011	Planned to be done in the fourth Quarter
					0 1	5%			

-	2. La	aboratories					nned	<b>Cumulative Progress and Deliverables</b>
Outcomes			Lead		Cumulative	Month	Year	up-to-date
			Partner	Budget	Completion	_		
2.1 Strengthened EQA capacity	2.1.1	Quarterly supportive supervision	MSH		100%		2011	Supportive supervision conducted for 195 (113.3%) TB Diagnostic Facilities in TB CAP supported zones. Slides for blind rechecking were collected from 188 (96.4%) HFs and rechecking is underway. The last quarter result has shown that, of the total 160 HFs participating in EQA,159 (99.4%) HFs had concordant results.
	2.1.2	National level capacity building - TOT on TB culture and DST.	MSH	24,393	<b>0</b> %		2011	Planned for next quarter.
	2.1.4	Gap filling trainings at regional level.	MSH	14,873	100%	May	2011	A gap filling training on AFB microscopy and EQA was conducted for 53 (F=19, M=34) laboratory professionals from 52 health facilities of five TB CAP supported zones of Oromia & Amhara Regions.
		Sharing and learning about new best practices in labs area at the international arena.	MSH		50%	Sep	2011	Abstract on "Achievements of external Quality assessment through slide rechecking & supervision in TB CAP supported Zones of Ethiopia" were submitted & approved to be posted at the 42th international TB conference in Lille, France in October 2011.
2.2 Strengthened lab networks	2.2.1	lab networking strengthened at supra-national level by supporting preparation and transportation of panel cultures.	MSH	1,500	<b>6</b> 0%	Sep	2011	Communication has started with EHNRI & supranational laboratory (RIVM) to initiate sample transportation.
	2.2.2	lab networking strengthened at national level by supporting the capacity of regional labs on EQA for culture & DST.	MSH	6,045	Cancelled	Sep	2011	This activity will not be perfomed for this year. The regional laboratories are not yet functional. The budget for this activity is planned to shift for activity 2.1.1& 2.1.4

2.	Participation, representation and advocacy for stronger system through national TWGs.	MSH		50%	Sep	Follow up on AFB microscopy service were discussed: EHNRI will supply slide boxes to the regions whereas regional laboratories will handle respective activities. Laboratory indicators: agreed to revise laboratories indicators based on international guidelines.
2.3 Introduced new lab equipment to support and strengthen quality of testing	Create a plan to test genes machine usability for TB screening & detection in Ethiopia at EHRNI.	MSH		0%	Sep	EHNRI put as an agenda in TWG, but due to other priority issues, postponded for next meeting

**43%** 

	3. Ir	nfection Control					nned	<b>Cumulative Progress and Deliverables</b>
Outcomes			Lead		Cumulative	Month	Year	up-to-date
			Partner	Budget	Completion			
3.1 Strengethened scale-up of TB IC implementation		Conduct TOT for Regional managers on TB IC	KNCV	8,960	100%	May		National TOT on TB Infection Control conducted in May, 16-19, 2011. The training was aimed to equip participants with knowledge, principles and skills for applications of infection control practices relevant to their settings. A total of 27 (F=5, M=22) individuals from different regions of the country participated in this training. The training was facilitated by local & regional KNCV staffs.
	3.1.2	Prepare provider support tools on TB IC	KNCV	3,720	<b>0</b> %	Aug	2011	Planned for next quarter
	3.1.3	Strengthen ACSM on TB IC	KNCV	3,940	75%	Jul		Based on the finding of end user assessment of TB IEC materials, correction has been made on IEC materials and will be printed after having the final design copy.
	3.1.4	Print hankerchiefs/IEC	KNCV	3,460	<b>5</b> 0%	Jul	2011	Proforma collected and to be ordered in first week of July 2011

	3.1.5	Provide TB IC TA to Regions	KNCV	5,625	75%	Sep	2011	Technical assistance provided for Dire Dawa City Administration Health Bureau, Harari & Addis Ababa Region together with assessing status of EH-RH regimen shift status.
	3.1.6	Participate in International conference	KNCV	6,100	100%	May	2011	African Regional TB Conference-Abuja attended by the TB IC officer which was held on the first week of March 2011
	3.1.7	Conduct analysis on TB IC status and disseminate findings	KNCV	140	100%	Mar	2011	The preliminary report of the assessment reported in the pervious quarter and the final techincal report shared with research depatment of KNCV Head Quarter.
	3.1.8	Support overseas training on TB IC	KNCV	8,100	100%	Jun	2011	Two experts attended the international training on TB IC at ALERT organized by KNCV & the Rwanda center of excellence.
	3.1.9	Provide regional TA to TB IC	KNCV	22,092	0%	May	2011	An international expert will come in May 2011 and afterwards, when it is appropriate
3.2 Strengethened system for incorporation of TB IC issues in health facility design		Support implementation of national guideline on Health Facilty Design in context of TB IC	KNCV	2,820	75%	Jul	2011	Communication initiated at FMoH and Amhara RHB to include the principle of TB IC. Amhara RHB incorporated TB IC principle in design of 30 Hospitals. It is also incorporated in USAID led prototype Health Center draft design.
	3.2.2	Conduct TOT for 20 architects	KNCV	5,980	0%	Jul	2011	This activity will be changed to conduct one regional TOT on TB IC. The previously planned TOT for Engineers and Architects would be planned in APA2. The newly changed activity will be carried out in August, 2011 without budget alteration.
					61%			

	4. PMDT				Pla	nned	<b>Cumulative Progress and Deliverables</b>
Outcomes		Lead	Approved	Cumulative	Month	Year	up-to-date
		Partner	Budget	Completion			

	T		,				_	
4.1 Treated 100 MDR-TB patients with SLD funded by USAID	4.1.1	Procurement of SLD for 100 MDR-TB patients	KNCV	269,254	100%	Sep	2011	The first shipment arrived to the country and was cleared from custom. It also arrived to the treatment site and they are recruiting patient from the waiting list. The number of patient through the end of June that have started treatment is 235.
	4.1.2	Support MDR Technical WG	KNCV	7,950	75%	Sep	2011	National MDR-TB status assessment was conducted at Gondar university Hospital. The assessment was conducted in April 29-May 12/2011. Based on the finding possible solutions & recommendation were forwarded to the NTP (see quarter overview). The activity will continue as it is but the budget is planned to be used for auxiliary drug procurement for the hospital.
	4.1.3	Conduct training of HCW on PMDT	KNCV	19,810	50%	Aug	2011	The first round training was conducted from June 10-14, 2011 at Bahrdar & Gondar. A total of 30 (M=16; F=14) participants from Gondar University Hospital, satelite/follow up Health Centers, regional and zonal Bureaus and Regional lab attended the training. Second round training to be done in August, 2011.
	4.1.4	Oversees training on PMDT	KNCV	8,100	100%	Jun	2011	Two trainees (M= 1; F= 1), TB IC Officer of TB CARE I and a medical doctor from ALERT center, participated in PMDR training held in Namibia from June 20 – 24/2011.
	4.1.5	Orientation to support staff on PMDT	KNCV	11,160	0%	Jul	2011	Will be done in the fouth quarter
	4.1.6	Prepare provider tools for clinical management	KNCV	4,160	25%	Jun	2011	The neccesary tools identified /selected, discussion underway to identify the type of template to be used.
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	4.1.7	Provide local TA to MDR-TB treatment sites	KNCV	4,560	75%	Sep 🚨	2011	MDR-TB treatment sites, laboratories (Bahirdar regional laboratory and St. Peter Lab) and other stakeholders (EHNRI, PFSA, Regional bureaus) were visited with TWG members. Additionally the first draft of the Implementation plan for PMDT activity for ALERT MDR-TB treatment unit was developed and shared with FMOH, ALERT Center and partners for comment and finalization.
	4.1.8	Provide international TA to PMDT	KNCV	13,037	0%	Aug	2011	This is expected to be combined with regional TA from KNCV and SOW and timeline has been developed and shared with the experts. Visit expected from July 16-23, 2011.
	4.1.9	Participate in international TB conference	KNCV	6,100	100%	Mar 🗖	2011	Participated in 18th African TB Conference in Abuja. The experience we have will help us to prepare & present our effort in international conferences.
	4.1.1	Provide regional TA on PMDT	KNCV	27,521	25%	Jun	2011	Scope of work developed and communicated with the regional experts and accepted. Waiting the expert visit from July 16-23, 2011.
	4.1.1	Support to update guideline on PMDT	KNCV	4,800	0%	Sep	2011	Discussion underway with TWG but the direction does not look for the guidline to be update this year. Therefore, it is agreed to reprint the existing guidline to aviod shortage of PMDT guideline.
4.2 Strengethened MDR data management	4.2.1	Introduce electronic database system	KNCV	3,330	0%	Sep 🚨	2011	Still on discussion with HMIS unit of FMOH and WHO took all the responsibility to introduce the new MDR Data base system. TB CARE I has a plan to introduce the existing data management system of St Peter Hopsital to Gondar University Hospital. Further TB CARE I provided onthe job orientation on recording & reporting formats for MDR TB unit staff of Gondar university Hospital.

	4.2.2	Procure computers and accessories	KNCV	8,000	1	00%	Sep	2011	Five computers with accessaries procured & ready to be distributed for Gondar Univeristy Hopsital & its follow up Health Centers.
	4.2.3	Conduct analysis on data on PMDT and disseminate it	KNCV	179		0%	Sep	2011	It is an action plan of the fourth Quarter and we are in the process of collecting data.
4.3 Established routine surveillance system for MDR-TB		Strengthen DST in 5 Regional Laboratories	KNCV	1,660	2	25%	Jun	2011	The DST expansion process was delayed nationally and all the five selected regional laboratories are not yet started the culture and DST process. TB CARE I will support technically, if required.
		Develop guidelines for introduction of GeneExpert	KNCV	600	2	25%	Sep	2011	Discussion underway with national TWG & EHNRI
				<u> </u>	0 4	14%			

	5. TB/HIV				Planned		<b>Cumulative Progress and Deliverables</b>
Outcomes	,		Approved Budget	Cumulative Completion	Month	Year	up-to-date
5.1 Improved coordination of TB/HIV Collaborative activities	<b>5.1.1</b> Coordinate and participate in the national TB/HIV Technical working group meetings	MSH		100%	Sep	2011	Four attendances in this quarter including the core group meetings TBL & TB/HIV training modules finalized by the core group & TB/HIV Standard Operation Procedures(SOPs) issues discussed
	<b>5.1.2</b> Support revision, adaptation and printing of the national TB and TB/HIV training materials and guideline for national level	MSH	2,000	75%	May	2011	Participated & technically assisted with the comprehensive TBL & TB/HIV training material development. Accordingly participants module and trainer guide development finalized. Field test done / TOT on the module given to natioanl TB & TB/HIV experts, feed back collected and compiled TBL & TB/HIV Guidlines revision scheduled for next quarter

	5.1.3	Organize Training of trainers (TOTs) on TBL and TB/HIV co-management for Federal and Regional TB/HIV experts	MSH	17,800	50%	Jun	2011	TB CARE I technically supported TBL & TB/HIV TOT for 18 experts from RHBs, universities & Federal hospitals. TB CARE I's training for the remainig experts is scheduled after the guidline revision. TB CARE I & FMoH trained 24 Health Extension Workers on TB and HIV at Hawassa from April14-20,2011.
	5.1.4	Organize MOST for TB/HIV workshop for federal and regional TB/HIV program managers	MSH	43,758	0%	Sep	2011	Activity scheduled for next quarter
	5.1.5	Document succeses on TBL and TB/HIV and share the results in the international arena	MSH	5,458	Cancelled	Sep	2011	Activity scheduled for next year as the implementation is still on progress
	5.1.6	MOST for TB follow up workshop	MSH	5,458	0%	Aug	2011	Activity scheduled for next quarter
5.2 Improved CDR at national level	5.2.1	Support TOT based the revised treatment regimen for 30 national and regional TB experts	MSH		25%	Jun	2011	Planned to use the comprehensive training material so one TOT will suffice as indicated in 5.1.3
	5.2.2	Follow-up on TB case detection improvement SOPs pilot program	MSH	34,518	75%	May	2011	Health facility level case Detection SOPs implementation done in 26 HFs in West Arsi Zone of Oromia from May 23- June 4, 2011 Follow up and supportive supervision to be done next quarter in collaboration with RHB & ZHD experts.
	5.2.3	Support the national EH-RH regimen shift initiative	MSH		100%	Sep	2011	TB CARE I supported the evaluation of EH - RH regemen shift implementation status in three urban Regions to see lessson learnt, & challenges. Report to be finalized soon.

**53%** 

	6. H	ealth Systems					nned	<b>Cumulative Progress and Deliverables</b>
Outcomes		ngthening	Lead Partner	Approved Budget	Cumulative Completion	Month		up-to-date
6.1 Improved Political commitment for TB control	6.1.1	Support MOH in capacity building of TB program managers/experts	MSH	14,948	0%	Sep	2011	Discussion conducted with FMOH on the need of this support and agreed to replace it by other activities:- media activities including supplementing activity 6.2.1, & support health proffesionals' association conferences.
	6.1.2	Support STOP TB partnership meetngs	MSH	1,275	75%	Sep	2011	Attended and actively participated TB & TB/HIV TWG meetings core group that finalized the Comprehensive TBL & TB/HIV training modules
6.2 Improved community awareness	6.2.1	Support the media forum to air TB messages via Radio, TV and also Print media	MSH	28,682	75%	Sep	2011	TB CARE I supported regular meeting of the TB Media forum. During this quarter a total of 39 (M=34, & F=5) members participated and the media forum members developed an MOU & a six month work plan.  In order to continue the TB radio message program, one of the FM radio vendors was selected, an agreement was signed and the program will resume at the end of July.
	6.2.2	Support TB events including world TB Day	MSH	5,000	100%	Mar	2011	TB CARE supported the design, printing and distribution of 6000 T shirts for WTD in three local languages using TB CAP remaining funds. Hence the budget of this activity will supplement 6.2.1
	6.2.3	Plan and discuss possibility to coordinate National TB conference	MSH		100%	Jul	2011	Technically supported TRAC conference as part of activity 7.3.1.
				1	<b>70</b> %			

	<b>7.</b> M	7. M&E, OR and Surveillance				Pla	nned	<b>Cumulative Progress and Deliverables</b>
Outcomes		<b>-</b>	Lead	Approved	Cumulative	Month	Year	up-to-date
			Partner	Budget	Completion			
7.1 Strengethened	7.1.1	Support MOH to review and update	KNCV		<b>1</b> 00%	Jul	2011	Technically supported & participated in the
data management		the registers and formats						revision of TBL & TB/HIV indicators.
for TB and TB/HIV								

at national level	7.1.2	Print adequate copies of registers and formats	KNCV	8,000	0%	Jul	2011	The revised registers & reporting formats are not ready for printing and plan to reprint the existing registers till the revised formats get ready for use.
7.2 National TB Prevalence survey conducted	7.2.1	Recruitment of experts for central team	KNCV	42,300	75%	Sep	2011	Three experts recruited for one year period, their salary being paid since July 2010 & will continue for the remaining months.
	7.2.2	Provide technical support	KNCV	4,500	50%	Jun	2011	The National TB prevalence survey field operation was finalized on 25th of June 2011, and planned to conduct field operation finalization and preliminary result releases workshop on July 14, 2011. TB CARE I is closely working with EHNRI and is being supported both technically & financially for this event.
7.3 National operational research agenda for TB prepared		Support annual review meeting on TB research	KNCV	12,100	100%	Jun	2011	"Challenging the Challenges of TB Case Detection and MDR TB in Ethiopia" was the theme of the Sixth National TB Research Conference. (see Quarter overiew)
7.4 Patient's cost tool implemented	7.4.1	Provide TA to implement Patient's cost tool	KNCV	15,148	25%	Feb	2011	The first meeting on patient cost tools implementation held AHRI & FMOH with technical support of KNCV HQ; Proposal has been developed by the research team & commented by Local & HQ staff of KNCV.
	7.4.2	Implementation of patient's cost tool	KNCV	13,810	50%	May	2011	MOU was signed between AHRI and the KNCV Country office in June 2011, the protocol was submitted for ethical clearance to start the actual field work.
	7.4.3	Dissemination of findings	KNCV	800	0%	Sep	2011	To be conducted in APA 2
			<u> </u>		65%			

ı	8. Drug supply and				Pla	nned	
	management				Com	pletion	
	management	Lead	Approved	Cumulative	Month	Year	<b>Cumulative Progress and Deliverables</b>
		Partner	Budget	Completion			up-to-date

8.1 Improved IPLS	8.1.1	Conduct national sensitization workshop on IPLS to ensure that IPLS trainings are implemented in TBCAP zones.	MSH	2,000	Cancelled	May	2011	Joint Supportive supervision was conducted on selected health facilities from East Shoa Zone in collaboration with PFSA central, PFSA Adama hub and East Shoa Health Department. In this visit, two hospitals, eight health centers and the east shoa zonal health department office were supervised using a pre agreed and standardized checklists. Based on the findings, the following recommendations were forwarded: -Regular follow up of IPLS implementation through supportive supervision; Man power shortage at the pharmacy section of health facilities needs to be addressed; the TWG regarding IPLS implementation needs to be reactivated both at central and hub levels by including partners; Distribution of anti-TB drugs and related health commodities needs to be integrated with that of ARV drugs and other HIV/AIDS related health commodities as the later is being implemented according to the national SOP of IPLS; and trained staff turnover is high and hence gap filling training in IPLS needs to be done.
	8.1.2	Printing of SOP and training manual for TB DSM and distribution as needed	MSH	2,500	Cancelled	Apr	2011	Printed with TB CAP budget and this budget will be used as matching funds for conducting a national sensitization workshop on integration of TB pharmaceuticals with that of ARV pharmaceuticals.
	8.1.3	TOT on TB DSM	MSH	12,230	Cancelled	Jul	2011	Agreement reached with PFSA to use this budget for conducting IPLS training.
	8.1.4	TOT on TB DSM SOP	MSH	8,750	Cancelled	Jul	2011	Agreement reached with PFSA to use this budget for coducting IPLS training.

		Organize a national sensitization and orintation workshop on the integration of anti-TB pharmaceuticals distribution with that HIV/AIDS related health commodities.  To conduct three sessions of IPLS	KNCV	14726		J	2011	Planned for fourth Quarter, see activity modification  Planned for fourth Quarter, see activity
		training (each session consists of 20 participants) for pharmacy profesionals from selected health facilities.				7 7		modification
8.2 Supported implementation of new TB regimens	8.2.1	Organize a national sensitization and orientation workshop for selected pharmacy professionals to assis the implementaion on the EH/RH regiment shift	МЗН	2,300	Cancelled	Jun	2011	Consensus being reached with PFSA and Tentative schedule set in the 4th week of July 2011 to organize a two day national sensitization workshop on the integration of TB, Malaria and FP pharmaceuticals with that of ARV pharmaceuticals. The workshop will include 80 to 90 participants drawn from all RHB, 7 Regional labs, FMOH, PFSA central and Hubs, Army and Police forces health commands and prison. This activity budget is replanned to conduct activity 8.1.6.
	8.2.3	organize a national sensitization workshop on introduction of patient kits in Ethiopia with FMOH/PFSA and other stakeholders	MSH	2,560		Sep	2011	Introductory discussions made with PFSA officials regarding the feasibility of introducing patient kits in Ethiopia. During the discussion, it was raised that though it seems a good idea (especially in improving treatment adherence), much needs to be done at the programatic level in te FMOH.
	8.3.2	Support national workshop on forecasting and quantification of anti- TB drugs	MSH	3,180	0%	Sep	2011	As part of a follow on activity to the national forecasting and quantification workshop in last August 2010, a stock status analysis and supply planning exercise is under way with PFSA.

**25%** 

# **Quarterly Activity Plan Modifications**

Approved By (write dates)		Old	2. Laboratories	Lead	Remaining	New	Replace with the following	Lead	Proposed	
Mission	PMU	USAID	Code	Activities from the Work Plan	Partner	Budget	Code	activity (if any)	Partner	Budget*
			2.1.3	Preparation/revision of training	MSH					
				modules in line with new						
				development at international level						
Approve	d By (writ	te dates)	Old	3. Infection Control	Lead	Remaining	New	Replace with the following	Lead	Proposed
Mission	PMU	USAID	Code	Activities from the Work Plan	Partner	Budget	Code	activity (if any)	Partner	Budget*
			3.2.2	Conduct TOT for 20 architects	KNCV	5,980	3.2.2	Conduct national TB IC	KNCV	5,98
								training for 30 Health Care		
								Workers		
Approve	d By (writ	te dates)	Old	5. TB/HIV	Lead	Remaining	New	Replace with the following	Lead	Proposed
Mission	PMU	USAID	Code	Activities from the Work Plan	Partner	Budget	Code	activity (if any)	Partner	Budget*
			5.1.5	Document succeses on TBL and	MSH		5.1.6	MOST for TB follow up	MSH	5,45
				TB/HIV and share the results in the		•		workshop		
				international arena				·		
Approve	d By (writ	te dates)	Old	1. Universal and Early Access	Lead	Remaining	New	Replace with the following	Lead	Proposed
Mission	PMU	USAID	Code	Activities from the Work Plan	Partner	Budget	Code	activity (if any)	Partner	Budget*
			8.1.1	Conduct national sensitization	MSH	2,000	8.1.5	Organize a national	MSH	14,72
				workshop on IPLS to ensure that		•		sensitization and orientation		
				IPLS trainings are implemented in				workshop on the integration of		
				TBCAP supported zones.				anti-TB pharmaceuticals		
								distribution with that		
								HIV/AIDS related health		
								commodities.		
			8.1.2	Printing of SOP and training	MSH	2,500	8.1.6	To conduct three sessions of	MSH	13,01
				manual for TB DSM and distribution		•		IPLS training (each session		
				as needed				consists of 20 participants) for		
								pharmacy professionals from		
								selected health facilities.		
			8.1.3	TOT on TB DSM	MSH	12,230				
			8.1.4	TOT on TB DSM SOP	MSH	8,750				
			8.2.1	Organize a national sensitization	MSH	2,300				
				and orientation workshop for		·				
				selected pharmacy professionals to						
				assis the implementaion on the						
		I	l	EH/RH regiment shift	I				l	

<sup>\*</sup> Detailed budget is attached

Reques	st for Po	stpone	ment	of Activities to Next Year		
Approve	d By (writ	e dates)	Old	2. Laboratories	Lead	Remaining
Mission	PMU	USAID	Code	<b>Activities from the Work Plan</b>	Partner	Budget
		2.2.2	lab networking strengthened at national level by supporting the capacity of regional labs on EQA	MSH		
				for culture & DST.		
Approve	d By (writ	e dates)	Old	3. Infection Control	Lead	Remaining
Mission	PMU	USAID	Code	<b>Activities from the Work Plan</b>	Partner	Budget
			3.2.2	Conduct TOT for 20 architects	KNCV	
Approve	d By (writ	e dates)	Old	5. TB/HIV	Lead	Remaining
Mission	PMU	USAID	Code	<b>Activities from the Work Plan</b>	Partner	Budget
			5.1.3	Organize Training of trainers (TOTs) on TBL and TB/HIV co- management for Federal and Regional TB/HIV experts	MSH	17,800
Approve	Approved By (write dates)		Old	7. M&E, OR and Surveillance	Lead	Remaining
Mission	PMU	USAID	Code	<b>Activities from the Work Plan</b>	Partner	Budget
			7.4.3	Dissemination of findings	KNCV	800
ı						i

Reques	t for A	dding N	ew Ac	tivities to the Current W	ork Plan	1	
Approved By (write dates) New			New	4. PMDT	Lead	Proposed	
Mission	PMU	USAID	Code	Proposed New Activities	Partner	Budget*	
			4.3.3	Procurment of Ancillary drugs	KNCV	11,250	using the budget allocated for activity 4.1.2 & 4.2
Approved	d By (wri	te dates)	New	1. Universal and Early Access	Lead	Proposed	
Mission	PMU	USAID	Code	Proposed New Activities	Partner	Budget*	
			8.1.5	Organize a national sensitization and orintation workshop on the integration of anti-TB pharmaceuticals distribution with that HIV/AIDS related health commodities.	MSH	14,726	
			8.1.6	To conduct three sessions of IPLS training (each session consists of 20 participants) for pharmacy profesionals from selected health facilities.	MSH	13,018	

<sup>\*</sup> Detailed budget is attached

# **Quarterly Photos (as well as tables, charts and other relevant materials)**

The sixth national TB conference participants



TB CARE I staff leading conference discussion



community awarness event





## **AFB Mocroscopy & EQA training**

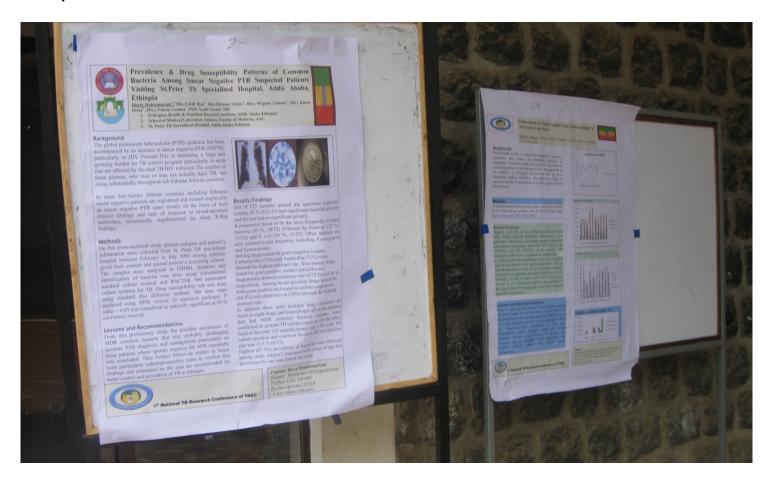




## **PMDT training**



## Posters presented at the National TB Research Conference



## Research paper sponsored by TB CAP



ASSESSMENT OF FACTORS AFFECTING THE PULMONARY TB CASE DETECTION IN WEST GOJJAM ZONE OF AMHARA REGION, ETHIOPIA Getu Cherinet, MPH



#### Background:

TB is a global public health problem and a disease of poverty.

One - thirds of the world populations are infected with TB and 10% of them developed an active TB disease in their life time. Detecting infectious TB cases and effective treatment of them is the most important TB control strategy, however, about 95% of TB cases and 98% of deaths are found in low income countries. Ethiopia is one of the 22 high TBCs with an annual PTB+ CDR of 31-38% in the past ten years and of 18-24% in recent five years for Amhara region, which is far lower than the expected manual PTB+ CDR of 78% global target set by WHO. The aim of this study is to assess factors affecting PTB case detection at facility and community level.

Methods: A community based cross sectional study was econdacted using a quantitative method of data collection from HHs (sampling unit) in selected hebeles of South Achder and Jabienan woredas selected through multistage stratified sampling technique. A facility based qualitative study was conducted using phenomenological study design, through in depth interview and observation, in four selected ICS in four woredas of West Gojjam zone of Amhara region from June to December 2010

Lessons and Recommendations: Despite an effort to disseminate health information on TB, there is a wide knowledge gap among the community about PTB. There is even low treatment seeking practices of sick patients and about two third of the prolonged coughers had poor treatment seeking practice. Thus, it signifies that there were undetected TB suspects in the community. Health workers at OPD and laboratory unit need not comply with the national TB guide line or flow chart for TB diagnosis and national AFB microsecopy manuals respectively. A high false negativity rate implicates problems related to staining and smearing which leads to wrong diagnosis of PTB. Despite passive TB case detection stargety was in use, an active TB case detection approach should be combined with it and needed to be applied effectively and widely through an effective community TB care initiative. The above study findings reflect the pulmonary TB case detection has been possibly affected by factors like the still of HFW are haded to TB case diagnosis, AFB detection and low treatment seeking behavior as well as poor active detection and referals of TB suspects.





The conceptual frame work of effective and improved PTB+ case detection

Results/Findings: Among the 1256(97.8%) of respondents who ever heard about PTB, 974(77.5%) mentioned the correct routes of transmission. However, 823(65.5%) did not have good knowledge about PTB. Respondents with higher educational level had good knowledge than illiterates with AOR=4.771, 95% CI= (3.254, 6.997) and P<0.001. Despite having good knowledge in the correct transmission routes of TB, half of the respondents had negative attitude towards TB. Respondents with high level of education had positive attitude than illiterates with AOR=4.510, 95% CI= (2.803, 7.256) and P< 0.001 Among 143 sick respondents with prolonged cough, 56(39.4%) had positive treatment seeking behavior. Treatment was sought more by females than male respondents. Half of health workers in the facilities did not employ two AFB test positive results as adequate diagnostic criteria for smear positive PTB diagnosis unless further supportive investigations are available. Observation of samples of AFB testing procedures reveals that more than quarter of sputum samples were substandard (either non nuco-purulent or saliva only. Proper technical reading and 100 fields' readings were not made in half of the observed smears. Moreover, there was 6(18.4%) false negativity rate which is over three times higher than the tolerable or acceptable false negative rate of NTBLCP

#### Contact:

E-mail: getucherinet@gmail.com or

GCherinet@ifhp-et.org
Mobile: +251 91-134 5724,
Fax: +251 58-222 2285,
P.O Box: 1841.
Bahir Dar



## Abstracts of oral presentation at the Sixth National Tuberculosis Research Conference

- 1 Challenges to Tuberculosis case detection: A rapid assessment of the available evidence
- 2 Ethiopian National TB prevalence Survey Progress Report
- 3 Prevalence of Smear positive Tuberculosis and its Geo-clustering at Dabat district in North West Ethiopia Innovative community based approaches for enhanced tuberculosis case finding and treatment outcome in
- 4 Southren Ethiopia
- 5 Community based prevalence study smear positive pulmonary tuberculosis in Alamata, southern Tigray
- 6 MDR TB treatment experience at St.Peter's TB specialized Hospital
- 7 Expansion of access to MDR TB treatment to Gondor University
  - Early initiation of antiretroviral treatment two weeks after tuberculosis therapy onset significantly improves
- 8 survival in immunosuppressed HIV infected adults: results of the CAMELIA randomized trail
  - Trend of drug resistance patterns to mycobacterium tuberculosis in Addis Ababa Ethiopia: a hospital based
- 9 retrospective analysis
- 10 The need to strengthen antimicrobial resistance surveillance system in Ethiopia for MDR TB and beyond
- 11 Discovery of a new mycobacterium tuberculosis lineage highly restricted to the Ethiopian Highlands
  PARtec Cycope© Fluorescence Microscopy: A Noble technique to increase Tuberculosis case detection rate
- 12 in Resources poor setups
  - Assessment of TB infection control knowledge and practice for health workers in Addis Ababa Health
- 13 Facilities
  - Association between exhaled nitric oxide in patients with pulmonary tuberculosis and lipid bodies within
- 14 tubercle bacilli in sputum in Gondor Health institution, North west Ethiopia
- Assessment of the implementation status of TB/HIV collaborative activities in 16 sites in three region
- 15 Ethiopia, Addis Ababa
- 16 The role of the private health sector in TB/HIV collaborative activities in Ethiopia
  - Long term incidence and risk factors for Tuberculosis in patients receiving highly active Antiretroviral
- 17 Therapy (HAART) in Addis Ababa, Ethiopia
- Clinical, hematologic and immunologic characteristics of Mycobacterium tuberculosis (MTB) patients with 18 and without HIV-1 infection
- Universal Care for MDR TB in Cambodia: south to south transfer of a model approach from Cambodia to 19 Ethiopia
- 20 pleural effusion: presentation, causes and treatment outcome in a resource limited area, Ethiopia
- 21 Chest radiographic patterns of smear positive tuberculosis in relation to HIV
- 22 A descriptive report of TB lymphadenitis in Ethiopia and comparison with pulmonary TB

  Changes in TB prevention (3l's) practice in I-TECH Ethiopia Supported Health Facilities of Amhara, Afar &
- 23 Tigray Regions, Ethiopia

## **Abstract Presentations**

- 24 Epidemiology of Pulmonary Tuberculosis at Dabat District in Northwest Ethiopia
- 25 Tuberculosis in North Gondor Zone Prison inmates: A ten years Experience
- 26 Prevalence of tuberculosis among diary farm workers in Addis Ababa
- 27 DOTS at a tertiary level teaching hospital: successes and challenges
- Prevalence &drug susceptibility patterns of common bacteria among smear negative TB patients visiting
- 28 St.Peter TB Specialized Hospital, Addis Ababa , Ethiopia
- Epidemiology of Human Tuberculosis in Tigray region: Prevalence , risk factors and strain characterization 29
  - Evaluation of the performance of quantiFERON-TB Gold In-Tube TB SPOT. TB and urine lipoarabinomannan test for the diagnosis of latent tuberculosis infection and pulmonary tuberculosis in high-risk populations,
- 30 in Addis Ababa, Ethiopia
  - Pulmonary tuberculosis among diabetic patents at Jimma University specialized hospital diabetic clinic
- 31 Jimma South West , Ethiopia a
- Fluorescence microscopy shortens time to mycobacterium tuberculosis diagnosis and reduces laboratory
- 32 work loads
- Immune response in Friesian-Zebu cross and Zebu calves vaccinated with mycobacterium bovis bacillus
- 33 calmette-guerin
  - Prevalence of tuberculosis and its co-infection rate among VCT attendant in and around Wolaita Sodo,
- 34 Southern Ethiopia
- 35 Enrolment for ART and CPT among the newly identified HIV positive TB patients
- 36 Factors affecting the pulmonary TB case detection four woredas of West Gojjam Zone
- 37 Standards of tuberculosis care in public and private health facilities in East Shoa Zone of Oroimia region
  Pathology of Camel tuberculosis and Molecular Characterization on its causative agents in pastoral regions
  38 of Ethiopia
- Knowledge and practice of private health sector practioners on tuberculosis to implement private public 39 mix direct observed short course chemotherapy in Ethiopia a
- 40 TB HIV/AIDS co infection in Africa: Systematic review and metaanalysis
- 41 Use of INH prophylaxis in all HIV infected individuals irrespective of latent tuberculosis is it worthy
  Early treatment response evaluated by a simple clinical scoring system correlates with the prognosis of
  42 pulmonary tuberculosis patients in Ethiopia
- 43 Identification of Plasma cytokines and Chemokines for the diagnosis of active TB disease

  Validation of a 24 well agar plate assay for simultaneous first and second line anti-tuberculosis drug

  44 sensitivity testing
- 45 Explanatory tuberculin skin test survey in Gundo -Meskel school Children in Semen Shoa Zone of Oromia